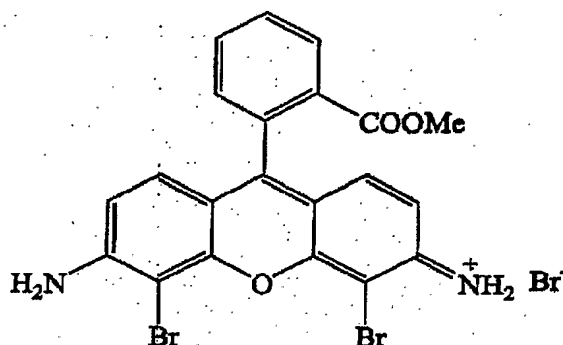


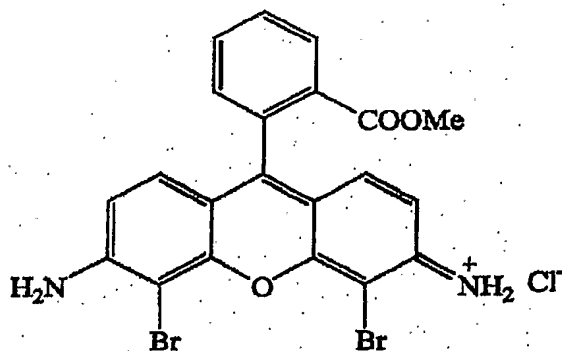
WHAT IS CLAIMED IS:

1. The use of PDT-treated cells (whole or fragments thereof) and/or supernatant thereof in the preparation of an immunologic compound for prevention, protection, prophylaxis or treatment of an immunological disorder, infection and/or a cancer in an individual, which comprises treatment of said individual cells or components thereof with a photoactivatable molecule selected from the group consisting of:



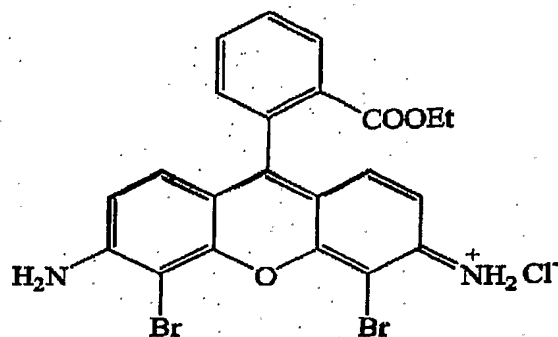
I

4,5-dibromorhodamine 123 hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrobromide) also called TH9402,



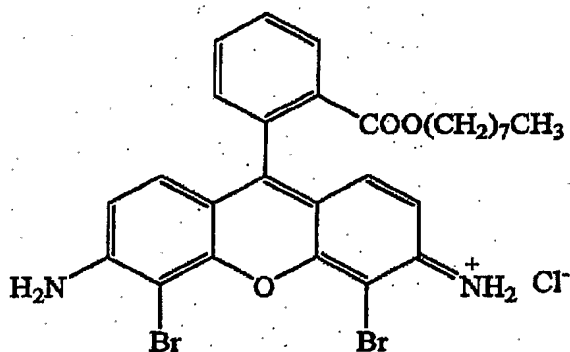
II

4,5-dibromorhodamine 123 hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrochloride),



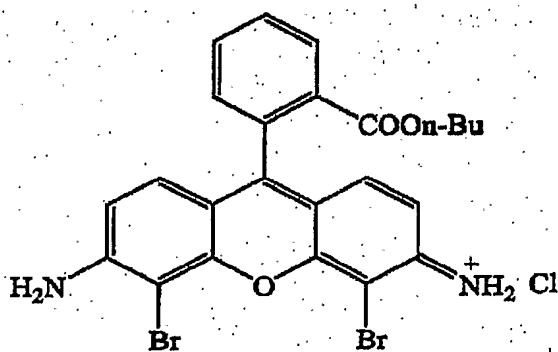
III

4,5-dibromorhodamine 110 ethyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrochloride),



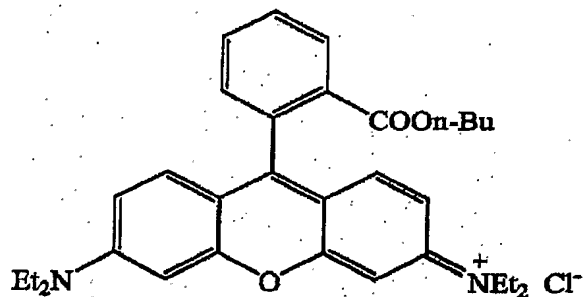
IV

4,5-dibromorhodamine 110 octyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid octyl ester hydrochloride),



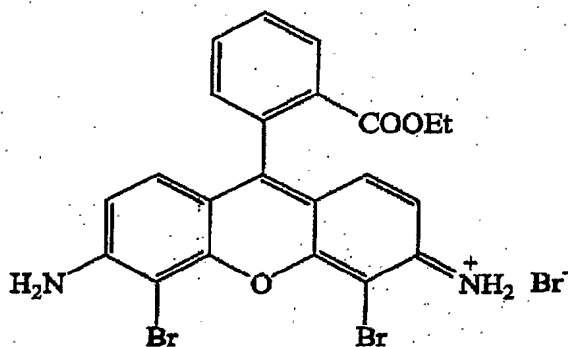
V

4,5-dibromorhodamine 110 n-butyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrochloride),



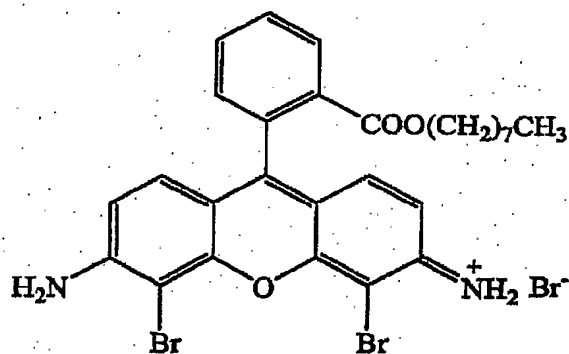
VI

rhodamine B n-butyl ester hydrochloride (2'-(6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrochloride),



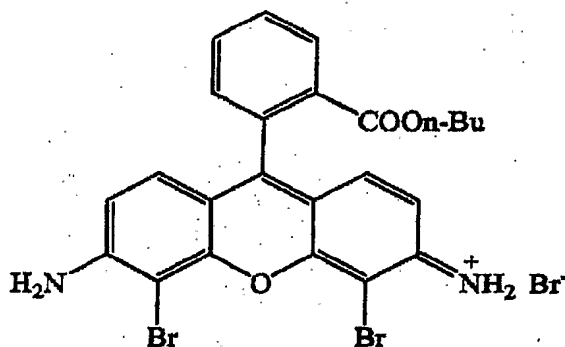
VII

4,5-dibromorhodamine 110 ethyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrobromide),



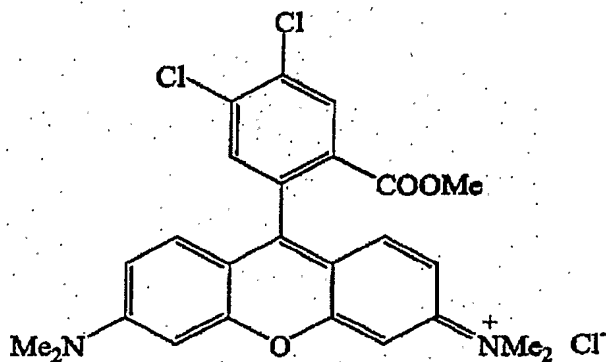
VIII

4,5-dibromorhodamine 110 octyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid octyl ester hydrobromide),



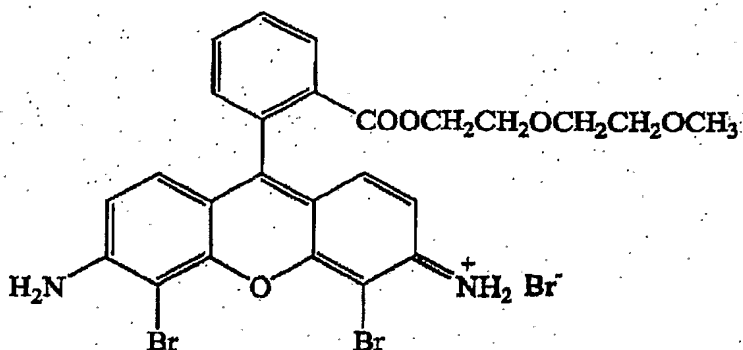
IX

4,5-dibromorhodamine 110 n-butyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrobromide),



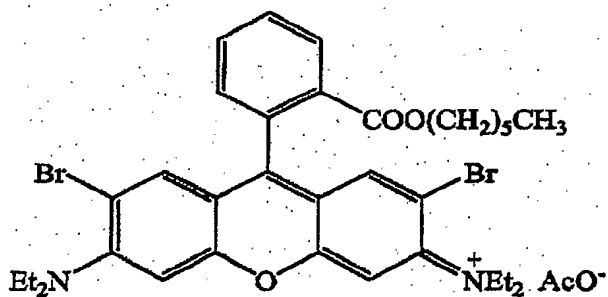
X

4',5'-dichlorotetramethylrhodamine (2'-(6-dimethylamino-3-dimethylimino-3H-xanthen-9-yl)-4',5'-dichloro benzoic acid methyl ester hydrochloride),



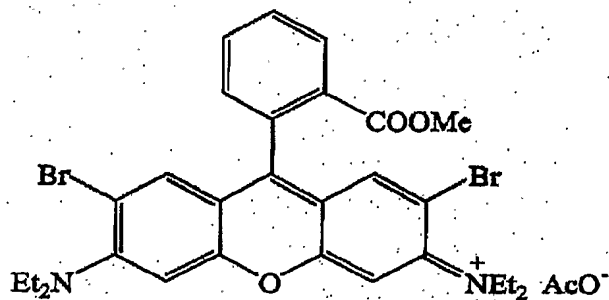
XI

4,5-dibromorhodamine 110 2-(2-methoxy ethoxy)ethyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid 2-(2-methoxy ethoxy) ethyl ester hydrobromide),



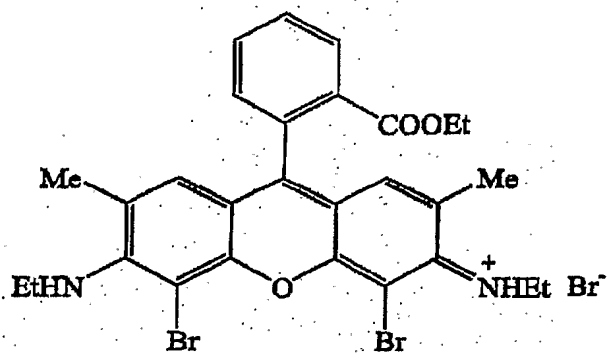
XII

2,7-dibromorhodamine B hexyl ester acetate (2'-(2,7-dibromo-6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid hexyl ester acetate),



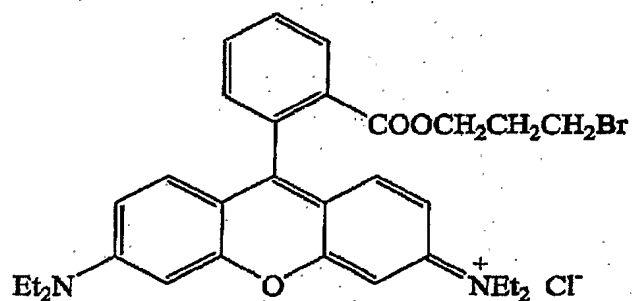
XIII

2,7-dibromorhodamine B methyl ester acetate (2'-(2,7-dibromo-6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid methyl ester acetate),



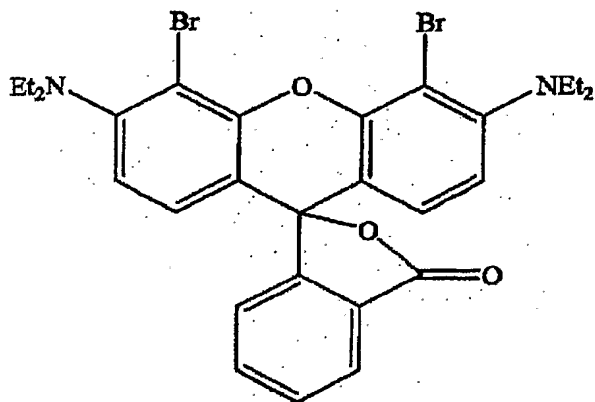
XIV

4,5-dibromorhodamine 6G hydrobromide (2'-(4,5-dibromo-2,7-dimethyl-6-ethylamino-3-ethylimino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrobromide),



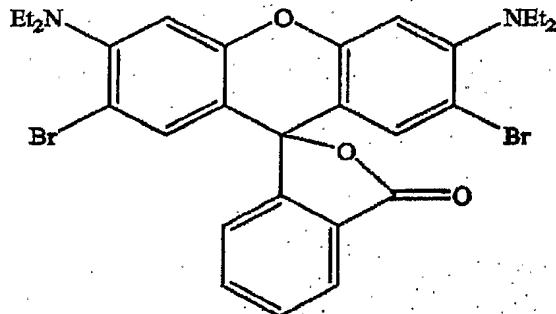
XV

rhodamine B 3-bromopropylester hydrochloride (2'-(6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid 3-bromopropyl ester hydrochloride),



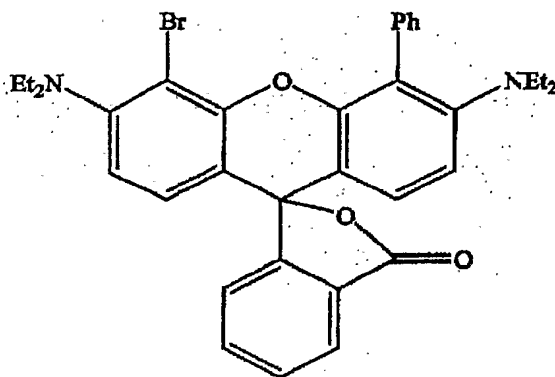
XVI

4,5-dibromorhodamine B base (3,3-(4',5'-dibromo-3'-diethyl amino-6'-diethyl aminoxanthen-9'-yl)-3H-isobenzofuran-1-one),



XVII

2,7-dibromorhodamine B base (3,3-(2',7'-dibromo-3'-diethyl amino-6'-diethyl aminoxanthen-9'-yl)-3H-isobenzofuran-1-one), and



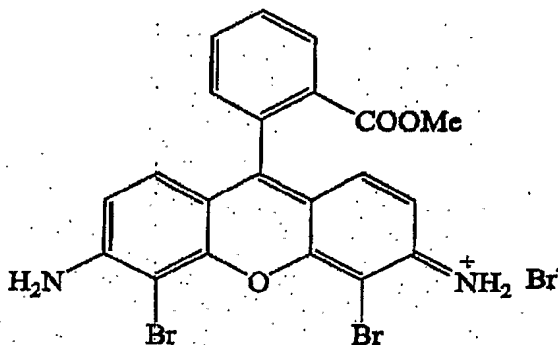
XVIII

4-bromo-7-phenyl-rhodamine B base (3,3'-(4'-bromo-3'-diethyl amino-6'-diethyl amino-5'-phenyl xanthen-9'-yl)-3H-isobenzofuran-1-one),

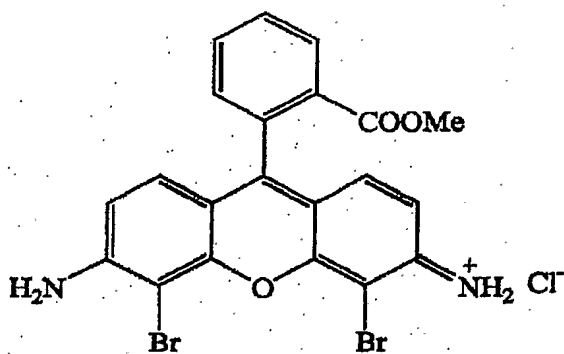
and wherein said photoactivatable molecule is activated by a light of appropriate wavelength, thereby activating said photoactivatable molecule and causing prevention, protection, prophylaxis or treatment of said immunological disorder, infection and/or a cancer.

2. The use of claim 1, wherein said immunologic compound is a vaccine.
3. The use of claim 1 or 2, wherein said immunological disorder is an alloimmune disorder or an autoimmune disorder.
4. The use of claim 3, wherein said alloimmune disorder is Graft-versus-Host Disease or an organ rejection.
5. The use of claim 3, wherein said autoimmune disease is selected from the group consisting of Rheumatoid Arthritis, Multiple Sclerosis, Scleroderma, Lupus, Autoimmune Hemolytic Anemia, Diabetes Mellitus, Progressive Systemic Sclerosis, Idiopathic Thrombocytopenic Purpura, Psoriasis, Ulcerative Colitis and Crohn's Disease.
6. The use of any one of claims 1 to 5, wherein said infection is caused by a bacteria, a virus, a parasite, a fungus, a prion or a protozoan.

7. The use of claim 6, wherein said virus is selected from the group consisting of Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), Hepatitis B Virus (HBV), Human Herpes Virus Type I or II, and Varicella Zoster.
8. The use of any one of claims 1 to 7, wherein said infection causes Chagas' Disease.
9. The use of any one of claims 1 to 8, wherein said cancer is selected from the group consisting of solid tumors and hematologic tumors.
10. The use of claim 9, wherein said solid tumors are of breast cancer, lung cancer, gastrointestinal cancer, skin cancer or of genitourinary, neurological, head and neck or musculoskeletal origin.
11. The use of claim 9, wherein said hematologic tumors are lymphomas, leukemias, myelomas, myelodysplasias or plasma cell dyscrasias.
12. The use of any one of claims 1 to 11, wherein said treatment of said individual cells is effected *ex vivo*, *in vitro* or *in vivo*.
13. The use of claim 12, wherein said treatment is an *ex vivo* treatment effected by perfusion.
14. The use of any one of claims 1 to 13, wherein said photoactivatable molecule is selected from the group consisting of :



4,5-dibromorhodamine 123 hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrobromide) also called TH9402, and



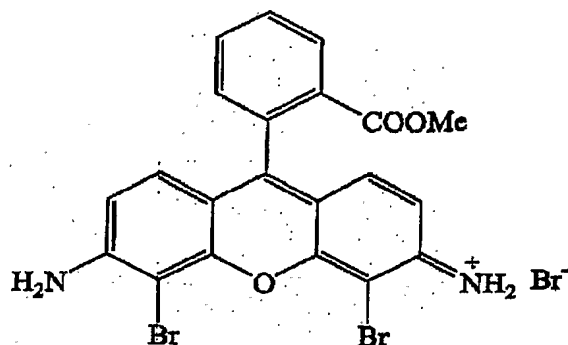
4,5-dibromorhodamine 123 hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrochloride).

15 The use of any one of claims 1 to 14, wherein said wavelength is ranging from about 400 to about 800 nm.

16. The use of claim 15, wherein said wavelength is ranging from about 450 to about 600 nm.

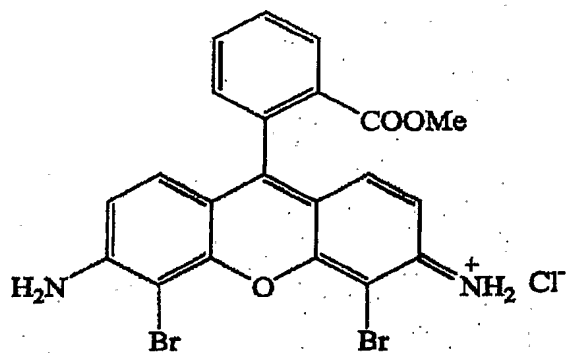
17. The use of any one of claims 1 to 16, which further comprises adding antigen presenting cells selected from the group consisting of dendritic cells, , Langerhans cells and growth factors.

18. An immunologic vaccine comprising PDT-treated cells (whole or fragments thereof) and/or supernatant thereof, wherein said cells are treated with a photoactivatable molecule selected from the group consisting of:



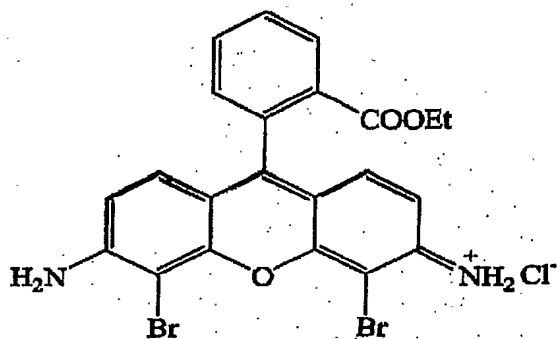
I

4,5-dibromorhodamine 123 hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrobromide) also called TH9402,



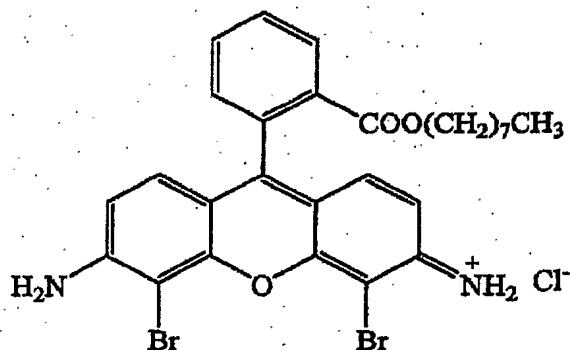
II

4,5-dibromorhodamine 123 hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrochloride),



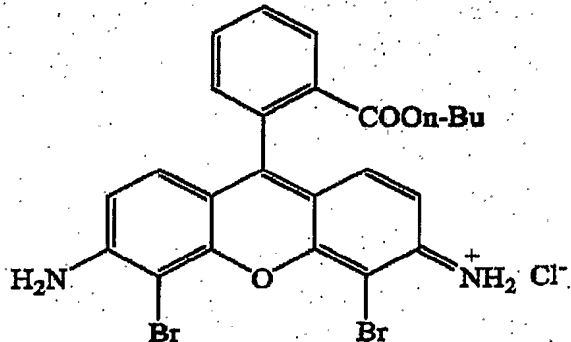
III

4,5-dibromorhodamine 110 ethyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrochloride),



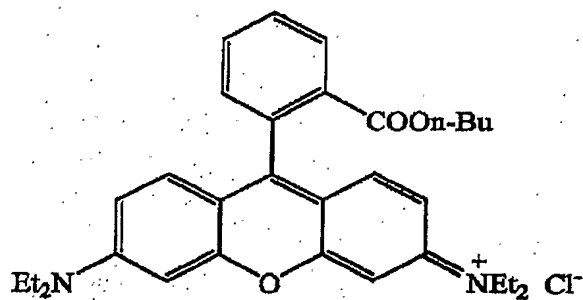
IV

4,5-dibromorhodamine 110 octyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid octyl ester hydrochloride),



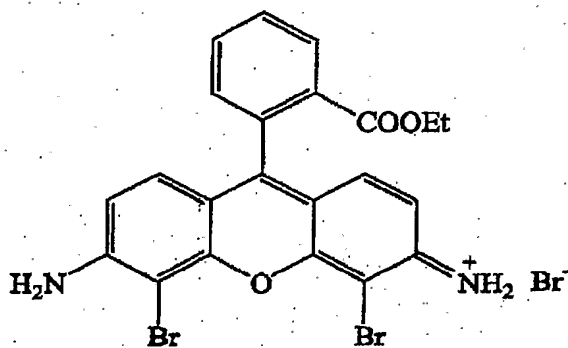
V

4,5-dibromorhodamine 110 n-butyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrochloride),



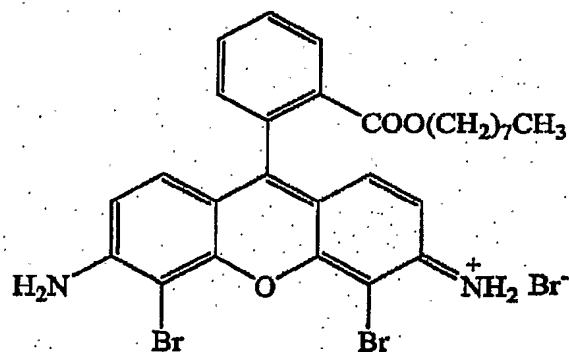
VI

rhodamine B n-butyl ester hydrochloride (2'-(6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrochloride),



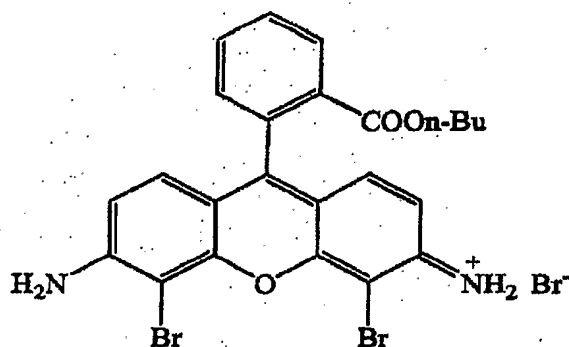
VII

4,5-dibromorhodamine 110 ethyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrobromide),



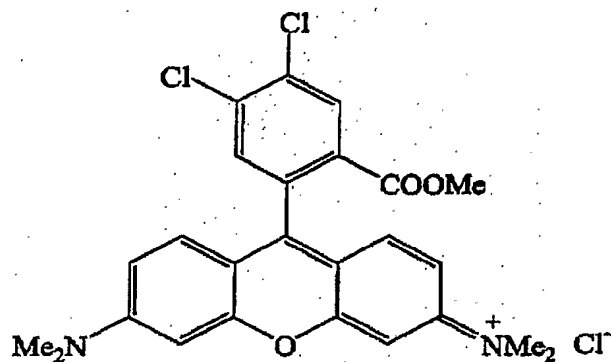
VIII

4,5-dibromorhodamine 110 octyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid octyl ester hydrobromide),



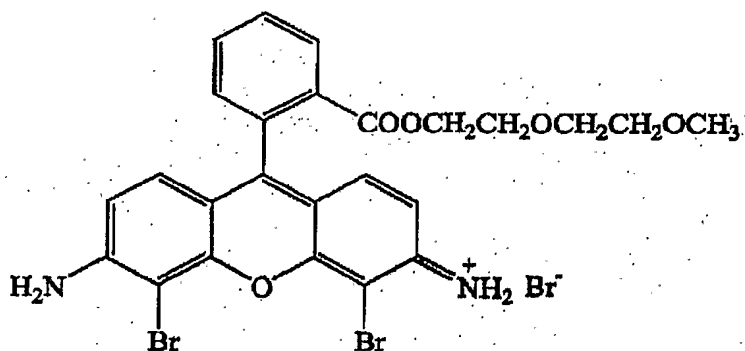
IX

4,5-dibromorhodamine 110 n-butyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrobromide),



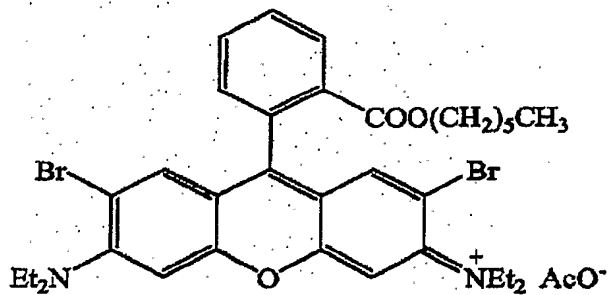
X

4',5'-dichlorotetramethylrhodamine (2'-(6-dimethylamino-3-dimethylimino-3H-xanthen-9-yl)-4',5'-dichloro benzoic acid methyl ester hydrochloride),



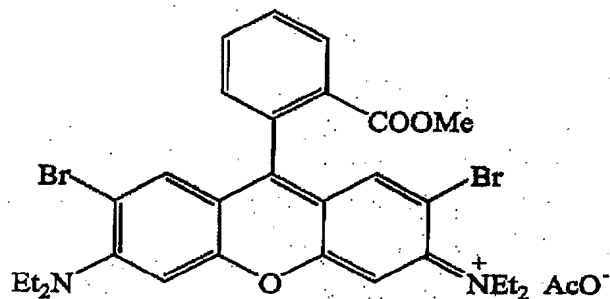
XI

4,5-dibromorhodamine 110 2-(2-methoxy ethoxy)ethyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid 2-(2-methoxy ethoxy) ethyl ester hydrobromide),



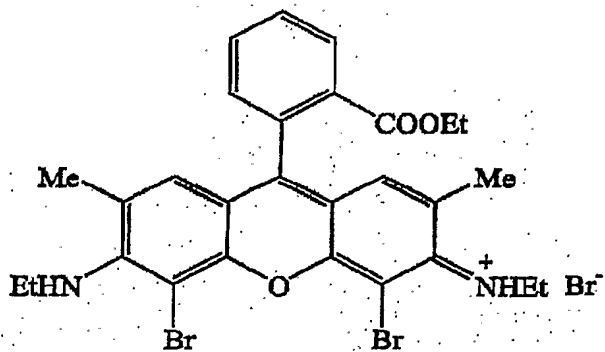
XII

2,7-dibromorhodamine B hexyl ester acetate (2'-(2,7-dibromo-6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid hexyl ester acetate),



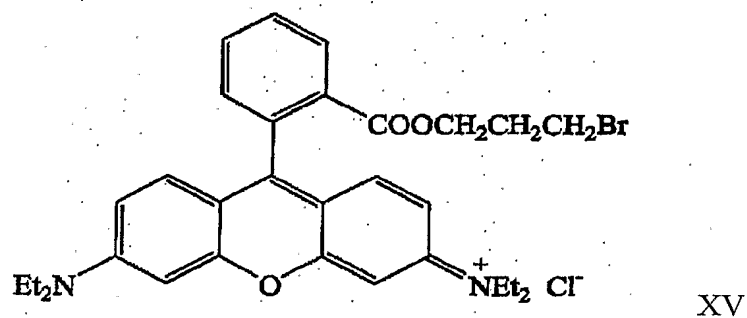
XIII

2,7-dibromorhodamine B methyl ester acetate (2'-(2,7-dibromo-6-diethyl amino-3-diethyl imino-3H-xanthen 9-yl)benzoic acid methyl ester acetate),

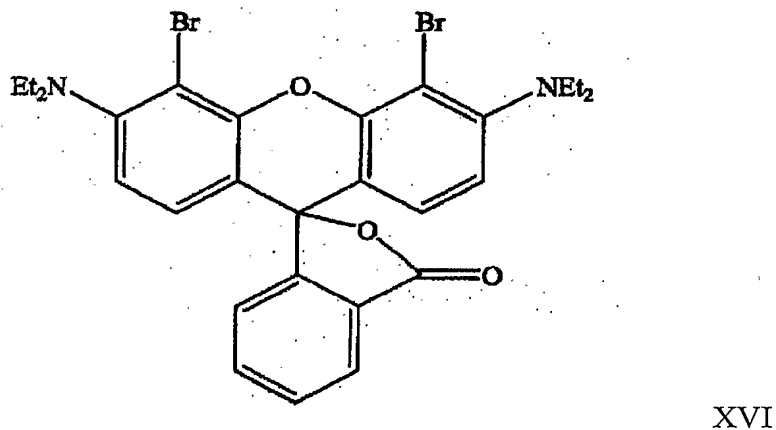


XIV

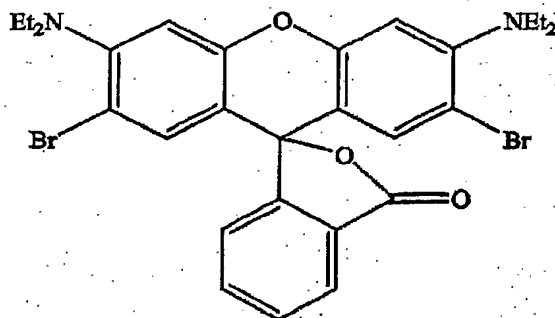
4,5-dibromorhodamine 6G hydrobromide (2'-(4,5-dibromo-2,7-dimethyl-6-ethylamino-3-ethylimino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrobromide),



rhodamine B 3-bromopropylester hydrochloride (2'-(6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid 3-bromopropyl ester hydrochloride),

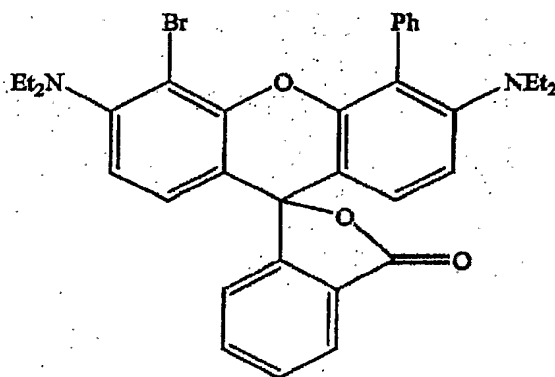


4,5-dibromorhodamine B base (3,3-(4',5'-dibromo-3'-diethyl amino-6'-diethyl aminoxanthen-9'-yl)-3H-isobenzofuran-1-one),



XVII

2,7-dibromorhodamine B base (3,3-(2',7'-dibromo-3'-diethyl amino-6'-diethyl aminoxanthen-9'-yl)-3H-isobenzofuran-1-one), and

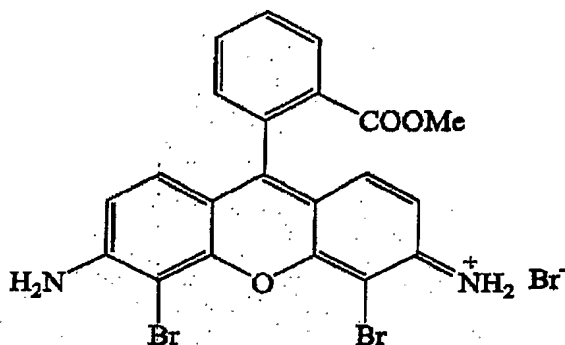


XVIII

4-bromo-7-phenyl-rhodamine B base (3,3-(4'-bromo-3'-diethyl amino-6'-diethyl amino-5'-phenyl xanthen-9'-yl)-3H-isobenzofuran-1-one).

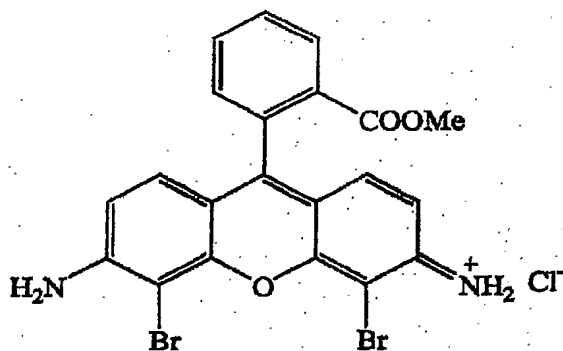
in association with a pharmaceutically acceptable carrier.

19. The vaccine of claim 18, wherein said photoactivatable molecule is selected from the group consisting of



I

4,5-dibromorhodamine 123 hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrobromide) also called TH9402, and



II

4,5-dibromorhodamine 123 hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrochloride).

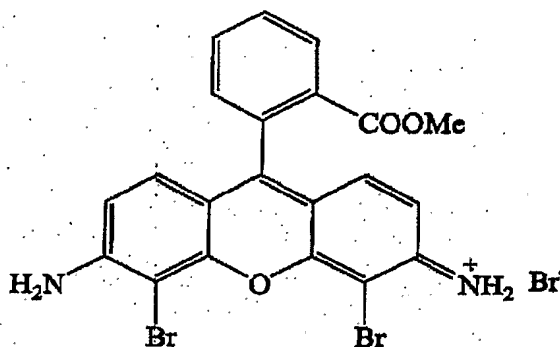
20. The vaccine of claim 18 or 19, wherein said molecule is activatable by a light having a wavelength ranging from about 400 to about 800 nm.

21. The vaccine of claim 20, wherein said wavelength ranges from about 450 to about 600 nm.

22. The use of a vaccine as defined in any one of claims 18 to 21 for prevention, protection, prophylaxis or treatment of an immunological disorder, infection and/or a cancer.

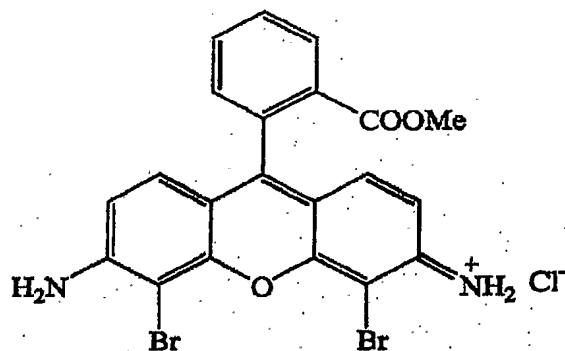
23. The use of claim 22, wherein said immunological disorder is an alloimmune disorder or an autoimmune disorder.
24. The use of claim 23, wherein said alloimmune disorder is Graft-versus-Host Disease or an organ rejection.
25. The use of claim 23, wherein said autoimmune disease is selected from the group consisting of Rheumatoid Arthritis, Multiple Sclerosis, Scleroderma, Lupus, Autoimmune Hemolytic Anemia, Diabetes Mellitus, Progressive Systemic Sclerosis, Idiopathic Thrombocytopenic Purpura, Psoriasis, Ulcerative Colitis and Crohn's Disease.
26. The use of any one of claims 22 to 25, wherein said infection is caused by a bacteria, a virus, a parasite, a fungus, a prion or a protozoan.
27. The use of claim 26, wherein said virus is selected from the group consisting of Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), Hepatitis B Virus (HBV), Human Herpes Virus Type I or II, and Varicella Zoster.
28. The use of any one of claims 22 to 27, wherein said infection causes Chagas' Disease.
29. The use of any one of claims 22 to 28, wherein said cancer is selected from the group consisting of solid tumors and hematologic tumors.
30. The use of claim 29, wherein said solid tumors are of breast cancer, lung cancer, gastrointestinal cancer, skin cancer or of genitourinary, neurological, head and neck or musculoskeletal origin.
31. The use of claim 29, wherein said hematologic tumors are lymphomas, leukemias, myelomas, myelodysplasias or plasma cell dyscrasias.
32. A method of preparing an immunologic compound for prevention, protection, prophylaxis or treatment of an immunological disorder, infection and/or a cancer in an individual, which comprises the steps of :

a) treatment of said individual cells with a photoactivatable molecule selected from the group consisting of:



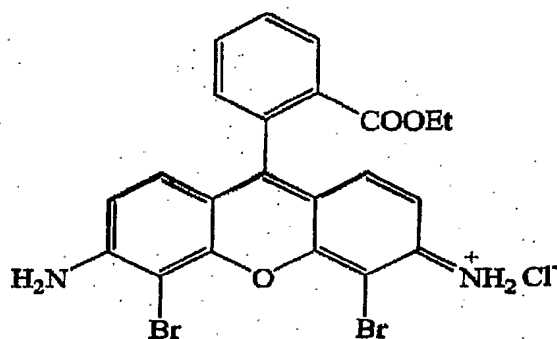
I

4,5-dibromorhodamine 123 hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrobromide) also called TH9402,



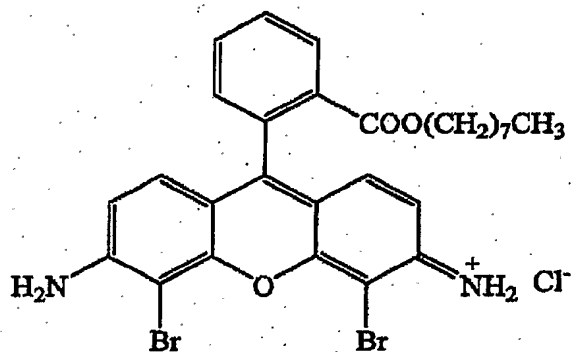
II

4,5-dibromorhodamine 123 hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrochloride),



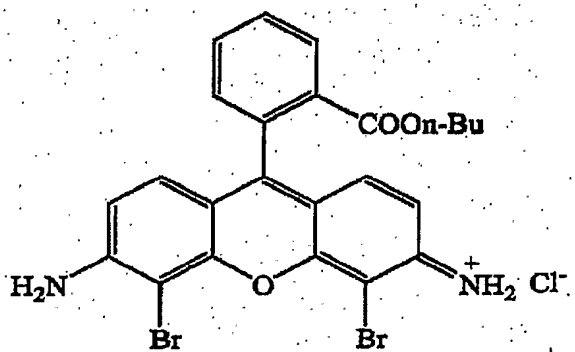
III

4,5-dibromorhodamine 110 ethyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrochloride),



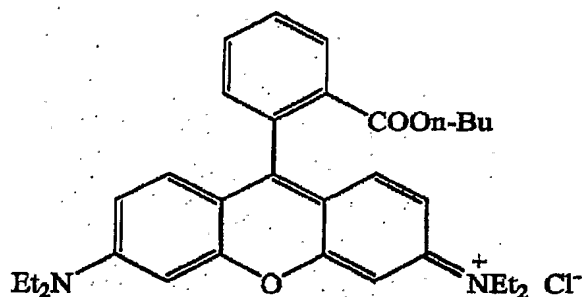
IV

4,5-dibromorhodamine 110 octyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid octyl ester hydrochloride),



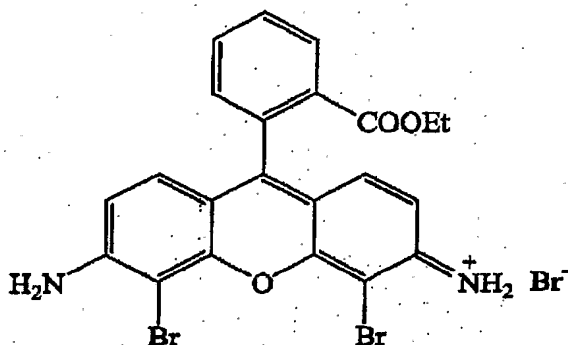
V

4,5-dibromorhodamine 110 n-butyl ester hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrochloride),



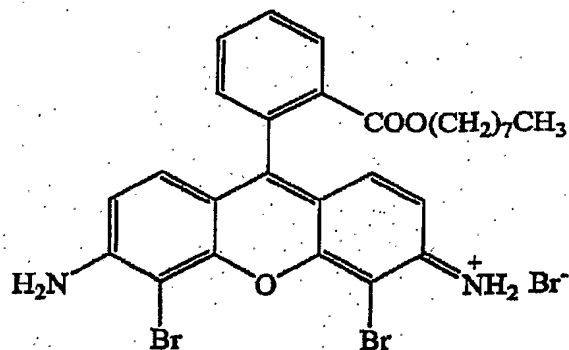
VI

rhodamine B n-butyl ester hydrochloride (2'-(6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrochloride),



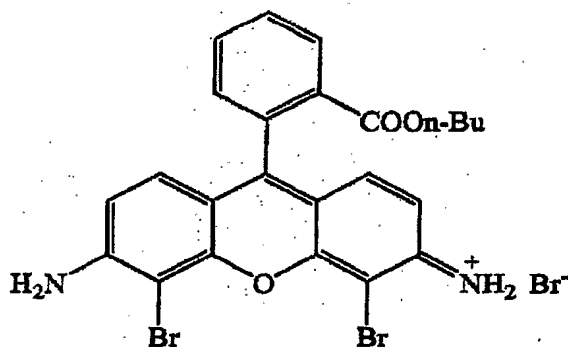
VII

4,5-dibromorhodamine 110 ethyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrobromide),



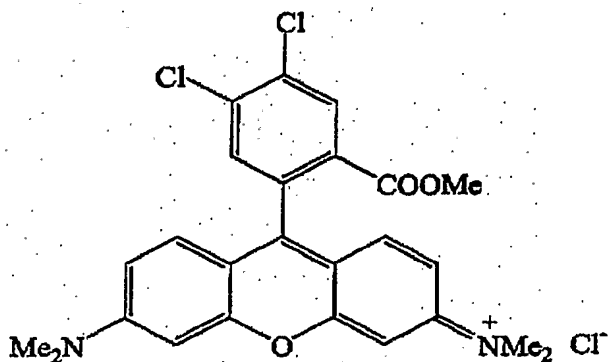
VIII

4,5-dibromorhodamine 110 octyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid octyl ester hydrobromide),



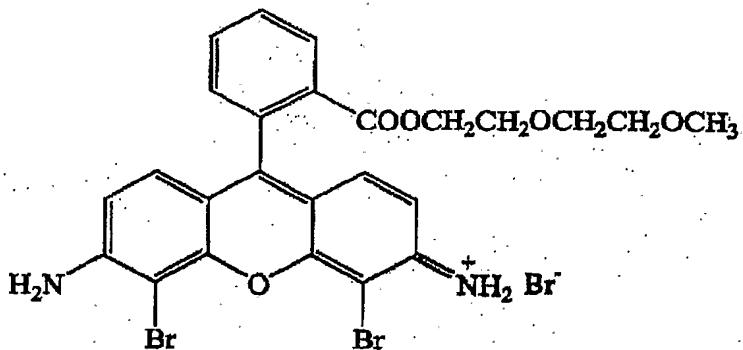
IX

4,5-dibromorhodamine 110 n-butyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)benzoic acid n-butyl ester hydrobromide),



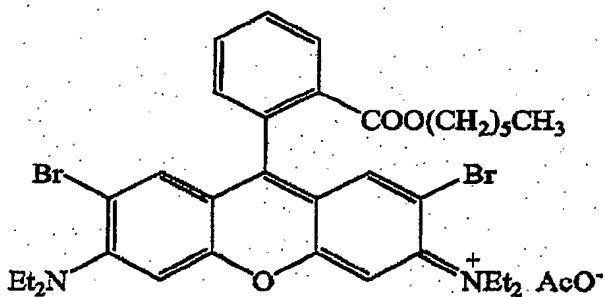
X

4',5'-dichlorotetramethylrhodamine (2'-(6-dimethylamino-3-dimethylimino-3H-xanthen-9-yl)-4',5'-dichloro benzoic acid methyl ester hydrochloride),



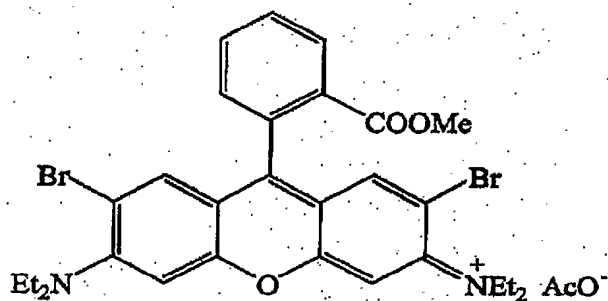
XI

4,5-dibromorhodamine 110 2-(2-methoxy ethoxy)ethyl ester hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid 2-(2-methoxy ethoxy) ethyl ester hydrobromide),



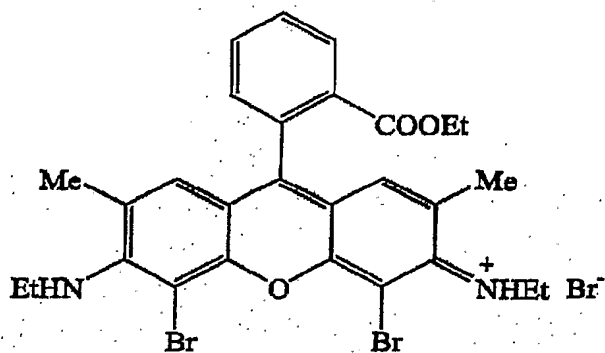
XII

2,7-dibromorhodamine B hexyl ester acetate (2'-(2,7-dibromo-6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid hexyl ester acetate),



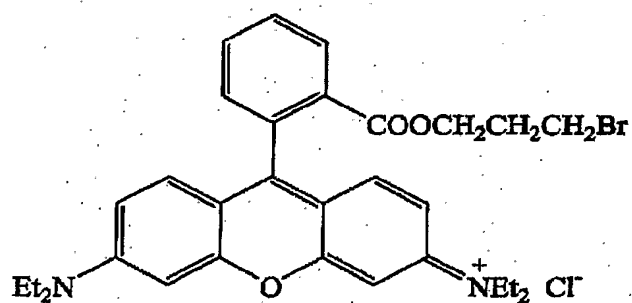
XIII

2,7-dibromorhodamine B methyl ester acetate (2'-(2,7-dibromo-6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid methyl ester acetate),



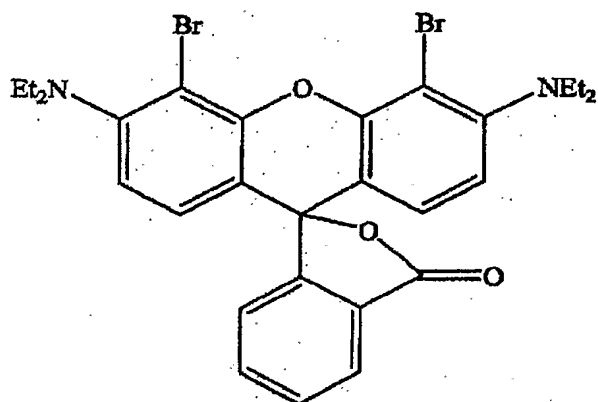
XIV

4,5-dibromorhodamine 6G hydrobromide (2'-(4,5-dibromo-2,7-dimethyl-6-ethylamino-3-ethylimino-3H-xanthen-9-yl)benzoic acid ethyl ester hydrobromide),



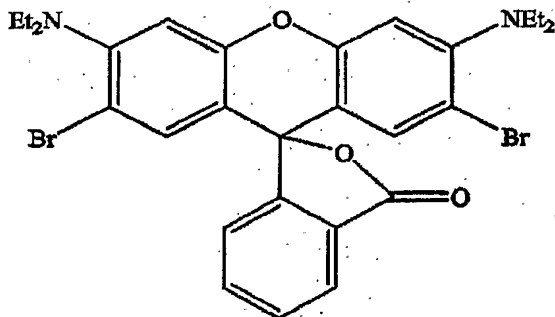
XV

rhodamine B 3-bromopropylester hydrochloride (2'-(6-diethyl amino-3-diethyl imino-3H-xanthen-9-yl)benzoic acid 3-bromopropyl ester hydrochloride),



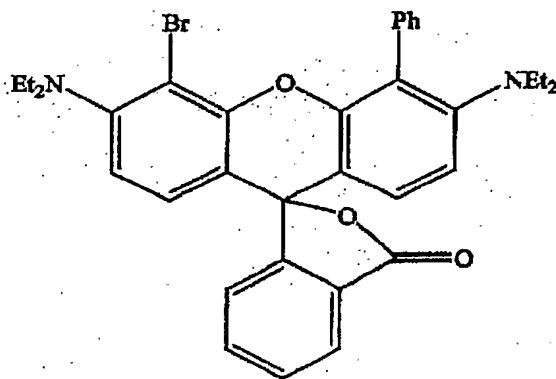
XVI

4,5-dibromorhodamine B base (3,3-(4',5'-dibromo-3'-diethyl amino-6'-diethyl aminoxanthen-9'-yl)-3H-isobenzofuran-1-one),



XVII

2,7-dibromorhodamine B base (3,3-(2',7'-dibromo-3'-diethyl amino-6'-diethyl aminoxanthen-9'-yl)-3H-isobenzofuran-1-one), and



XVIII

4-bromo-7-phenyl-rhodamine B base (3,3-(4'-bromo-3'-diethyl amino-6'-diethyl amino-5'-phenyl xanthen-9'-yl)-3H-isobenzofuran-1-one).

and

b) subjecting said cells to a light of appropriate wavelength to activate said photoactivatable molecule, thereby obtaining PDT-treated individual cells (whole or fragments thereof) and/or supernatant thereof.

33. The method of claim 32, wherein said immunologic compound is an autoimmune vaccine.

34. The method of claim 32 or 33, wherein said immunological disorder is an alloimmune disorder or an autoimmune disorder.

35. The method of claim 34, wherein said alloimmune disorder is Graft-versus-Host Disease or an organ rejection.

36. The method of claim 35, wherein said autoimmune disease is selected from the group consisting of Rheumatoid Arthritis, Multiple Sclerosis, Scleroderma, Lupus, Autoimmune Hemolytic Anemia, Diabetes Mellitus, Progressive Systemic Sclerosis, Idiopathic Thrombocytopenic Purpura, Psoriasis, Ulcerative Colitis and Crohn's Disease.

37. The method of any one of claims 32 to 36, wherein said infection is caused by a bacteria, a virus, a parasite, a fungus, a prion or a protozoan.

38. The method of claim 37, wherein said virus is selected from the group consisting of Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), Hepatitis B Virus (HBV), Human Herpes Virus Type I or II, and Varicella Zoster.

39. The method of any one of claims 32 to 38, wherein said infection causes Chagas' Disease.

40. The method of any one of claims 32 to 39, wherein said cancer is selected from the group consisting of solid tumors and hematologic tumors.

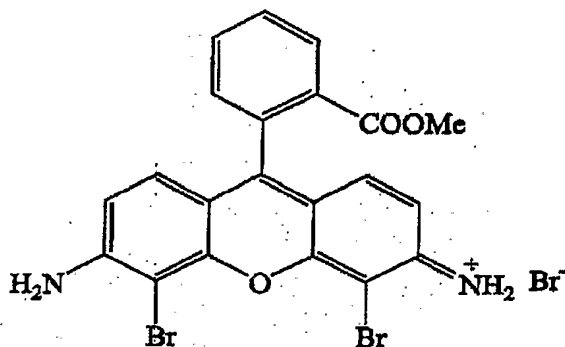
41. The method of claim 40, wherein said solid tumors are of breast cancer, lung cancer, gastrointestinal cancer, skin cancer or of genitourinary, neurological, head and neck or musculoskeletal origin.

42. The method of claim 40, wherein said hematologic tumors are lymphomas, leukemias, myelomas, myelodysplasias or plasma cell dyscrasias.

43. The method of any one of claims 32 to 42, wherein said treatment of said individual cells is effected *ex vivo*, *in vitro* or *in vivo*.

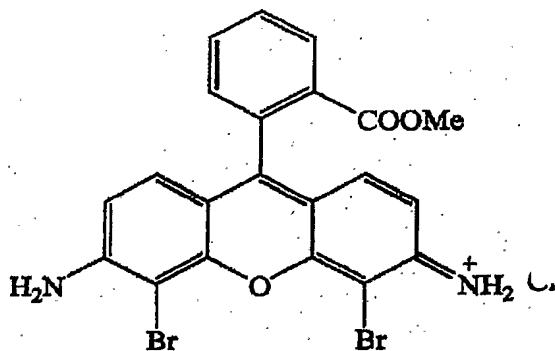
44. The method of claim 43, wherein said treatment is an *ex vivo* treatment effected by perfusion.

45. The method of any one of claims 32 to 44, wherein said photoactivatable molecule is selected from the group consisting of :



I

4,5-dibromorhodamine 123 hydrobromide (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrobromide) also called TH9402, and



II

4,5-dibromorhodamine 123 hydrochloride (2'-(6-amino-4,5-dibromo-3-imino-3H-xanthen-9-yl)-benzoic acid methyl ester hydrochloride).

46. The method of any one of claims 32 to 45, wherein said wavelength is ranging from about 400 to about 800 nm.

47. The method of claim 46, wherein said wavelength is ranging from about 450 to about 600 nm.

48. The use of any one of claims 32 to 47, wherein step a) further comprises adding antigen presenting cells selected from the group consisting of dendritic cells, Langherhans cells and growth factors.